DESCRIPTIONS OF NEW SOUTH AFRICAN SPIDERS.

By John Hewitt, Director of the Albany Museum, Grahamstown.

(With 9 text figures and plates XXVI and XXVII.)

The material on which the following descriptions are founded is mainly contained in the collection of the Transvaal Museum and includes some particularly fine series of terricolous spiders obtained in the Pretoria District subsequent to the completion of my previous paper on this subject (Annals Trans. Mus., Vol. V, Part 2). The fact that each species is usually represented by a great number of specimens, all carefully located, has enabled me to work out the range of variation within a species and to gauge with some degree of confidence the value of each character. Such work is, of course, essential to ensure accuracy, yet it is safe to say that the majority of workers on trapdoor spiders have been obliged to describe most of their species from single specimens. Although our knowledge of the Arachnid fauna of that neighbourhood has been greatly increased through the extensive collections brought together by Messrs. Austin Roberts and G. van Dam, yet their discoveries around Pretoria can only be regarded as a minor part of the wealthy but almost unexplored fauna of the Transvaal.

A few of the species here described are based on material in the Albany Museum, Grahamstown.

Family ATYPIDAE.

Calommata transvaalicus, sp. nov. (Plate XXVI, fig. 11 and text fig. 3.)

The *type* of this species is a single female specimen, probably immature, collected at Roodeplaat, seventeen miles north-east of Pretoria, by Mr. G. van Dam (3rd April, 1915). It was found in grass veld, occupying a nest about 9 inches deep, lined inside with thick web, but not protected by a lid.

The record is of considerable interest as hitherto no members of this family have been known from South Africa. The genus *Calommata*, however, for a long time known only from Japan, Burmah, Java, and Sumatra, was recorded some years ago from the Cameroons by Mr. Pocock. In describing * the species there found, *C. simoni*, Mr. Pocock merely compared it with *C. fulvipes* Lucas, the genotype, apparently regarding the other three species described from Eastern Asia as synonyms of *fulvipes*.

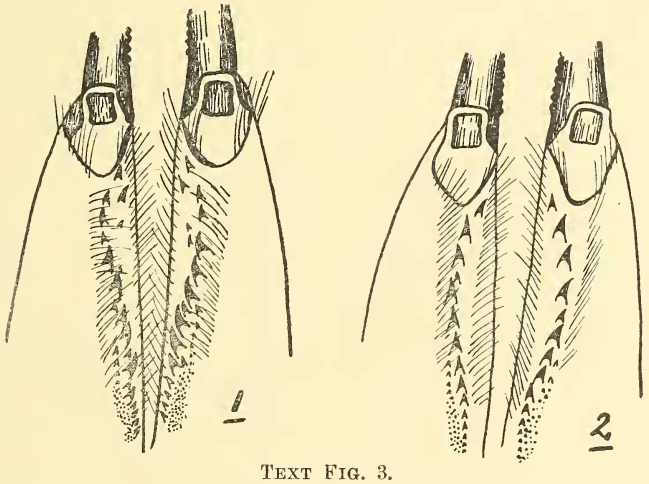
The description of the species is as follows :—

Dentition of chelicerae.—The distal row on one side is composed of two teeth, and on the other side of only one tooth ; in the former case

* *Ann. Mag. Nat. Hist.*, 7, XI, p. 259.

the two rows are clearly quite distinct, but in the latter the single inner tooth although quite internally situated and considerably separated from the distal tooth of the main row may be included in the same curved line with the main row. The main row includes five or six larger teeth and a number of smaller ones. In distinguishing *simoni* from *fulvipes*, Mr. Pocock attached importance to the position of the distal internal row of teeth relative to the main row. In *simoni* these two rows form a continuous curved series whereas in *fulvipes* the two rows are distinct.

Legs.—First leg without spines or spinules. Second leg with spinules as follows: Patella with 4 or 5 on the anterior side near the apex above and 3 or none on the posterior side distally; tibia with 2 near the base anteriorly above, also numerous spinules in the distal half, especially dorsally and posteriorly, also on the upper portion of the anterior surface;



TEXT FIG. 3.

Calommata transvaalicus sp. nov. Dentition of chelicerae in specimen found between Villiera and Derdepoort, 1; in specimen from Hatfield, 2.

metatarsus with numerous spinules dorsally and some posteriorly; tarsus also spinulose above. On the anterior side of tibia IV there are about 27 spinules, including those near the distal margin.

Ocular area.—Frontal eyes a trifle more than two diameters apart.

Posterior sternal sigilla large, pearshaped, about two-thirds of a length apart, and about the same amount distant from the sternal margin.

Colour.—Carapace pallid, nearly white; between and around the frontal eyes is some dark pigmentation; a small sharply-defined, transverse, brown coloured area along the anterior margin of the carapace. Appendages pale yellowish-brown, above and below, and likewise the sternum. Abdomen pale above, with a fairly well-defined infuscated area posteriorly and some slight infuscation anteriorly immediately behind the pedicle. Apical segment of posterior spinners dark.

Measurements.—Total length 20 mm., length of carapace 5·5 mm., length of fang 3·3.

This species has a very pronounced and objectionable odour, recalling that of decomposing stable manure. The type is in bad condition, as it seems to have been moulting at the time of capture. Another example was subsequently taken by Messrs. Roberts and Van Dam between Villiera and Derdepoort, near Pretoria (12th April, 1915). It is smaller than the type, but otherwise agrees well therewith. In this specimen the maxillary processes are dark-brown: the dentition (text fig. 3, No. 2), is clearly referable to two main series, the inner distal one including only two teeth. On the other hand, in a specimen from Hatfield the teeth are in a single series.

I have little doubt but that this species is closely related to and perhaps even identical with *C. simoni* Poc., which, however, was founded on a very much larger specimen (length of fang 8, of carapace 10). The original description of that species merely states that the first and second legs are "as in *C. fulvipes* Lucas," and as Mr. Pocock's description of *fulvipes* in the "Fauna of British India: Arachnida" (p. 160) states that "the legs of the posterior pairs are furnished distally with a few spinules" and makes no reference to the occurrence of spinules on the anterior legs, one might reasonably infer that the first and second pairs of legs in *fulvipes* and in *simoni* are muticous. However, Mr. S. Hirst has very kindly supplied me with a description of the spinulation of the second leg in the type of *simoni*, as follows:—"Patella with a longitudinal series of fine long hairs on its upper surface and 3 or 4 short bristles or spinules at the apical end; a number of spinules at the distal end of the tibia forming a narrow transverse strip (the spinules being 2–3 deep), or only strongly developed in the middle, also in this segment there are a few lateral setae; there are numerous spinules distributed throughout the upper surface of the metatarsus, and others are present on the outer side of this segment, but are longer, weaker, and less numerous; tarsus with weak spinules." From this account it would appear that the spinulation of tibia II is more pronounced in *ransvaalicus* than in *simoni*, and in the latter species, apparently, there are no spinules at the base of that segment superiorly.

The large size of the posterior sternal sigilla will perhaps distinguish it from *fulvipes* as figured by Pocock, but the constancy of this character is doubtful: in the Hatfield specimen the sigilla are about a diameter apart, but only half a diameter from the margin of the sternum.

Family CTENIZIDAE.

Acanthodon transvaalensis (Hewitt). (Text fig. 4.)

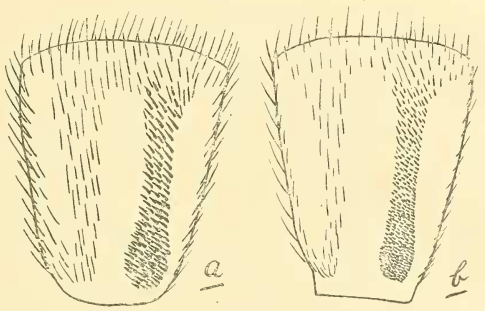
Female specimens of this species were collected by Messrs. A. Roberts and G. van Dam at the following localities in the Pretoria District during April, 1915: Mayville, Rietfontein (Pretoria), Witfontein, Skinner's Court, between Lyttelton Junction and Irene, Rietfontein (20 miles north-west of Pretoria), Schoemansrust, Roodeplaat, and Zeekoegat in the same neighbourhood.

The type of this species is evidently immature, and Mr. A. Roberts has taken very much larger specimens near Pan Station, Middelburg, and

also at Middelburg. It has also been taken at Wonderfontein Station, Middelburg, and at Steynsdorp ; a small specimen was found at Rosslyn, Pretoria, by Mr. G. van Dam, and a larger one at Lyttelton Junction (1st March, 1916). The largest example has a total length of 22 mm., the carapace being 8 mm. long and 7 mm. broad.

The species was originally described (Records, Albany Museum, II, p. 412) as a *Ctenolophus*, Purc., and was afterwards referred to the genus *Gorgyrella* Purc., but I now regard both these proposed genera as synonyms of *Acanthodon* Guer.

This species is very closely related to *Gorgyrella schreineri* Purcell. The most obvious difference between *schreineri* and *transvaalensis* lies in the spinulation of coxa III : in *schreineri* those spinules are coarse and comparatively few, whereas in *transvaalensis* they are very numerous and much smaller than in *schreineri*. The first pair of sternal sigilla, though not marginal nor submarginal, are only a little internal to the edge of the sternum—a diameter or slightly more : in the small specimen from Rosslyn, however, they are practically marginal. Patella III has 9–21 spines on



Text Fig. 4.

Ventral surface of coxa of third leg to show spinous areas in (*a*) *Acanthodon schreineri* (Purcell) from Victoria West, (*b*) *Acanthodon transvaalensis* (Hewitt) from Middelburg. Transvaal.

its anterior surface, including those at the distal edge. The other species *Acanthodon schreineri* Purcell, is known to me from the following localities : Bloemfontein (Dr. T. F. Dreyer), De Aar (F. C. Cronwright-Schreiner), Victoria West (B. Marais), Whittlesea (Miss S. Chinn), Fort Brown (Miss M. Howarth), Grahamstown (Miss N. Webb), Schurfteberg, Somerset East District (Mr. B. Marais), Worcester (Mr. G. B. Townshend), Adelaide (Miss Van der Vyver), Kimberley (Bro. J. H. Power).

It will probably be possible to distinguish a number of local races in this species on the different ocular characters.

Acanthodon schreineri Purcell, var. nov. *minor*.

The types of this form are an adult male and female from Roodeplaat, Pretoria District, collected by Mr. G. van Dam (22nd February, 1916). They were found under the protection of stones on the top of a stony kopje. A female specimen was also collected by Mr. A. Roberts at Bon Accord, Pretoria District (13th June, 1915), and others more recently at New Muckleneuk.

The adult female is considerably smaller than that of typical *schreineri* (Ann. S. Af. Mus., III, p. 25), but otherwise seems to agree closely therewith. The length of the ocular area is a trifle less than one-third of the distance from the anterior margin of the carapace to the fovea: the posterior margins of the posterior row of eyes are in a distinctly procurved line, the distance between the posterior medians being nearly twice as great as the distance between a posterior median and posterior lateral: it may be noted that typical *schreineri* in the different parts of the Cape Province varies considerably in its ocular characters, especially in the arrangement of the eyes of the posterior row. The patch of spinules on the ventral surface of coxa III extends only about $\frac{2}{3}$ of the length of the segment, the distal fourth of the segment at any rate being entirely free of spinules. On the anterior surface of patella III there are about 20 spines, including those on the distal edge (but only 9–10 in the Bon Accord specimen).

Length of carapace 5·9; breadth of same 4·75.

A New Muckleneuk specimen is somewhat larger, the carapace measuring 6·4 × 4·75.

Male.

Chelicerae with 5 teeth in the inner row and 2 basal teeth externally.

Palp.—Tibia about twice as long as deep, the excavation armed with a continuous strip of short spines, about 18 altogether, mostly in a single row except at each end. Tarsus with a pair of rather long and weak spines dorsally.

Legs.—Ventral surface of coxa III with a patch of sharp, rather weak spinules in its basal half posteriorly; II without distinct spinules, but with a patch of somewhat scattered spinuliform setae in a similar situation. Tibia I greatly swollen, considerably shorter than metatarsus I, the under surface with 6 spines on the outer side. Metatarsus I with a distinct bend at a point about $\frac{1}{3}$ of its length distant from the apex, inferiorly with about 6 spines on the outer side distributed over the whole length of the segment, but on the inner side there are only 4 spines and they are confined to the apical third. Tarsus I with 2 internal and 1 external spines. All the tarsi are scopulate, but I only very weakly so; IV without spiniform setae in the scopula.

Patella IV with about 10 spinules anteriorly, extending over the basal half of the segment; III with about 14 spinules on its anterior side, including those on the distal edge, but none on the dorsal surface.

Anterior tarsal claws carrying a comb of 5 or 6 teeth.

Ocular area.—Anterior median eyes very much larger than the frontals, which are about $\frac{3}{5}$ of a diameter apart. Hind margins of posterior row in a rather strongly procurved line, the medians being about 3 diameters apart and about $1\frac{1}{4}$–$1\frac{1}{2}$ diameters distant from the posterior laterals. The ocular area occupies barely $\frac{1}{3}$ of the distance from the anterior margin of the carapace to the fovea.

Measurements.—Total length 8 mm., length of carapace 4, breadth of carapace 3·25, length of tibia I 2·5, of metarsus I 3·25.

The modification of the metatarsus and tibia of the first leg is a distinguishing feature of this species.

Acanthodon monticola, sp. nov. (Text fig. 5.)

Types.—Three adult male specimens from Magaliesberg, Little Wonderboom, collected by Messrs. A. Roberts and G. van Dam (6th and 14th June, 1915). Female specimens were taken in the same locality, and also more recently at Daspoort by Mr. A. Roberts.

Chelicerae with 5 or 6 teeth in the inner row on the fang groove and 3 or 4 small ones in the outer row. Rastellum composed of 3 very stout short spines on the anterior margin of the basal joint.

Pedipalps.—Tarsus with 2 or 3 spines at its apex superiorly. The spines margining the excavation of the tibia on its outer side do not form a continuous semicircular band, the strip being interrupted in the middle (see fig.).

Legs.—Coxa III with some short stiffish setae on its post-ventral margin in the basal half especially, but these setae are not numerous nor the group, as a whole, very conspicuous. Tarsus I without spines or only

Text Fig. 5.

Acanthodon monticola, sp. nov. Pedipalp of male.

1 weak one on the anterior side. All the tarsi are scopulate, the scopula of IV without fine spiniform setae in its course. Claws of tarsus I with 2–5 moderate-sized teeth, of IV with 1–4 teeth, but when 3 or 4 teeth are present only 1 is of large size. Tibia I subequal to or only very slightly longer than metatarsus I. Metatarsus I only slightly bowed. Patella III with about 10–14 spines anteriorly, including those on the distal edge, also about 5 on the dorsal surface, including those at the apex. Patella IV with 9–13 spines on its anterior surface in the basal half of the segment.

Ocular area.—Posterior median eyes about $1\frac{1}{2}$ diameters or a trifle more apart, only $\frac{1}{2}$ a diameter or a trifle more distant from the posterior laterals. Anterior medians rather less than $\frac{1}{2}$ a diameter apart. Area formed by frontal and anterior median eyes quite as broad behind as in front. Viewed from in front the frontals are separated by a distance equal to about $\frac{1}{3}$ the diameter of an eye; in one example rather more than $\frac{1}{2}$ the diameter of an eye.

Sternum.—Three pairs of sigilla, the first pair marginal

Total length 9 mm.; length of carapace 3.

Female.

The more important characters of the female are as follows :—

Legs.—Coxa III with a post-ventral tuft of stiffish setae, which in the basal third or half of the segment take the form of sharp spinules. Coxa II without a trace of spinules. Metatarsus III with 2 long spines at the apex inferiorly, but none or only 1 or two weak ones on the lower surface. Band of spines on anterior surface of tibia II including 3, 4, or 5 spines or even only 1. Patella III with 5–8 spines along the anterior surface, including those on the distal edge ; IV with a band of 9–14 stout but short spines, extending about half-way along the segment or less (in an immature specimen only 6 spines).

Chelicerae with an inner row of 5 fairly strong teeth and an outer row of 3 or 4 small ones.

Ocular area about as long as $\frac{1}{3}$ of the distance from the anterior margin of the carapace to the fovea. Posterior median eyes about $1\frac{1}{2}$–2 diameters apart and about a diameter distant from the posterior laterals. Posterior margins of posterior row in a straight line. Posterior laterals elongated. Frontals about $\frac{1}{2}$–$\frac{2}{3}$ of a diameter apart. There are three very long bristles on the cephalic area, one between the anterior medians and a pair situated midway between the point of origin of this single bristle and the fovea.

Labium with 2 apical teeth.

Sternal sigilla.—Three pairs, the first pair submarginal.

Colour.—Carapace and legs olive-brown, the palps and first two pairs of legs darker than the hind two pairs of legs.

Measurements.—Total length 11·5 mm., length of carapace 4, breadth of carapace 3·25.

This is an unusually small species. Mr. G. van Dam has recently taken male and female examples at Wolhuters Kop in the Rustenburg District.

Acanthodon paucispinulosus Hewitt.

This was described by me (Annals Trans. Mus., V, p. 98) as a variety of *transvaalensis*, to which it is undoubtedly closely related. The spinules on coxa III are somewhat stouter but less numerous than in *transvaalensis*. The first sternal sigilla are clearly separated from the margin of the sternum, but only very slightly so on one side in one of the types. Patella III with about 25–30 or even several more spines along the anterior surface, including those on the distal edge : IV with a group of about 40–50 short stout spines extending over $\frac{3}{5}$–$\frac{4}{5}$ of the length of the segment anteriorly. Band of spines on anterior surface of tibia II, including about 4–7 spines. The pair of stouter spines posterior to the ocular area is much nearer to the anteromedian eyes than to the fovea.

Acanthodon cp. grandis Hewitt (Annals Natal Mus., III, pt. 2).

From Forbes Reef, Swaziland, and Lochiel, Ermelo District, Mr. A. Roberts took female examples which seem to be closely related to *grandis* and also to *abrahami*. There are three pairs of sternal sigilla, the first pair submargina : there is a strip of stiff bristly hairs along the posterior border of coxa III inferiorly. The ocular arrangement is slightly different from

that of *grandis*, the posterolaterals being nearer to the medians than are the latter to each other. Band of spines on patella IV only reaching $\frac{1}{2}$–$\frac{3}{4}$ of the distance along the segment; band of spines on anterior surface of tibia II, including 10–13 spines.

Acanthodon cp. oomi Hewitt (Records Albany Mus., II, p. 416).

Mr. A. Roberts took female examples very closely related to *oomi* at Lake Chrissie and Tevreden and a small example also at Oshoek, Carolina District. They differ from the type of *oomi* in the ocular arrangement: in the type, the pair of long spines behind the ocular area is situated just midway between the fovea and the anterior margin of the anterior median eyes, but in the above specimens is nearer to the anterior medians than to the fovea. The ocular area is in fact a trifle shorter relatively in these specimens than in the type. There is also a strong resemblance to *A. crudeni* from Alicedale, but the intervening spaces between the eyes of the posterior row, compared with the size of the posteromedian eyes, are distinctly greater in these examples than in *crudeni*.

Key to the South African Species of the genus Acanthodon, based on the characters of the Adult Females.

A.—A strip of rather slender setae on the post-ventral border of coxa III.

(*a*) Ocular area short, its length less than or not exceeding $\frac{1}{3}$ of the distance from the anterior margin of the carapace to the centre of the fovea.

(1) Frontal eyes about a diameter apart. Abdomen without setigerous tubercles superiorly. (Kentani.) *A. spiricola* Purc.

(2) Frontal eyes about a diameter apart. Abdomen with setigerous tubercles superiorly. (Kentani.) *A. kolbei* Purc.*

(3) Frontal eyes about $\frac{1}{5}$–$\frac{1}{4}$ of a diameter apart and projecting strongly forwards from the front margin of the carapace. Distance between posterior medians about equal to twice the diameter of an eye. (Grahamstown.) *A. flaveolum* Poc.

(*b*) Ocular area a trifle longer, just exceeding in length $\frac{1}{3}$ of the distance from the anterior margin of the carapace to the centre of the fovea.

(4) Frontal eyes about $\frac{1}{4}$–$\frac{1}{3}$ of a diameter apart, the distance between the posteromedians equal to $1\frac{2}{3}$ times the diameter of an eye. Posterior medians decidedly nearer to the posterior laterals than to each other. (Alicedale.) *A. crudeni* Hewitt.

(*c*) Ocular area still longer, almost equalling in length $\frac{2}{5}$ of the distance from the anterior margin of the carapace to the fovea.

(5) Frontal eyes about $\frac{1}{3}$ of a diameter apart: posterior row of eyes equally and rather widely spaced: patella IV strongly spined anteriorly to the apex: strip of setae on coxa III very weakly developed. (Lüneburg.) *A. oomi* Hewitt.

(6) Frontal eyes nearly $\frac{3}{4}$ of a diameter apart: strip of setae on coxa III strongly developed: patella IV spined anteriorly

* This species is not known to me.

only in its basal half: posterior lateral eyes rather nearer to the posterior medians than the latter are to each other. (Newington.) *A. fenoulheti* Hewitt.*

B.—The strip on coxa III composed of coarser setae, some of which may be even spiniform.

(a^1) Two pairs of sternal sigilla. Ocular area reaching backwards about $\frac{2}{5}$ of the distance from the anterior margin of the carapace to the fovea. Patella IV spined anteriorly to the apex.

(7) Posterior lateral eyes decidedly nearer to the posterior medians than are the latter to each other. Frontal eyes about $\frac{1}{4}$ of a diameter apart. (Kentani.) *A. kentanicus* Purc.†

(8) Posterior row of eyes subequally spaced: frontal eyes about $\frac{2}{5}$–$\frac{1}{2}$ of a diameter apart. (Grahamstown). *A. microps* Hewitt.

(b^1) Three pairs of sternal sigilla.

(9) Frontal eyes about $\frac{1}{3}$ of a diameter apart: posterior row subequally spaced: ocular area reaching backwards about $\frac{2}{5}$ of the distance from the anterior margin of the carapace to the fovea. (Umfolosi.) *A. grandis* Hewitt.

(10) Frontal eyes about a diameter or slightly less apart: length of ocular area only slightly exceeding $\frac{1}{3}$ of the distance from the anterior margin of the carapace to the fovea: posterior median eyes nearer to the laterals than to one another. (Alicedale.) *A. abrahami* (Hewitt).

C.—With spines on the post-ventral border of coxa III and sometimes also on II or I. Usually three pairs of sternal sigilla.

(11) Coxa I with a large denticulate area which is almost as extensive as that on coxa II. (Giftberg, Van Rhynsdorp.) *A. namaquensis* Purc.

(12) Coxa I without denticulate area, or this area very much less extensive than that on coxa II. The spinules on coxa III strong and stout, extending nearly the whole length of the segment (Hanover.) *A. schreineri* Purc.

(12*a*) Similar to the typical form of *schreineri*, but the patch of spinules on coxa III extending only about $\frac{2}{3}$ of the length of the segment. *A. schreineri minor*, var. nov.

(13) Similar to *schreineri*, but spinules on coxa III much smaller and much more numerous. (Newington). *A. transvaalensis* Hewitt.

(14) Coxa II quite without spinules, III with a strip extending the whole length of the segment. (Gravelotte.) *A. paucispinulosus* Hewitt.

(15) Similar to *paucispinulosus*, but the spines on coxa III restricted to the basal half or third of the segment. (Magaliesberg.) *A. monticola*, sp. nov.

* This species might be referred to section B.

† Based on several adult specimens from Ngqeleni (H. L. Bulcock). The original description was probably drawn up from a juvenile example, in which case the description does not correctly represent the characters of the species.

[*A. hamiltoni* Pocock, from Vredefort Road is based on a very young example: it belongs to my section A.]

Galeosoma robertsi, sp. nov. (Plate XXVI, figs. 3 and 4.)

Types.—This description is based on a large series of adult female examples collected during March and April, 1915, by Messrs. A. Roberts and G. van Dam from the following localities, all in the Pretoria District: Mayville, Wonderboom Poort, New Muckleneuk, Hatfield, Pretoria College, Brooklyn, Bon Accord Station, Garstfontein, Rietfontein (near Crocodile River Bridge), Elandsfontein No. 35, and Skinner's Court. It is noteworthy that another species, *pilosum*, is commonly found in the immediate neighbourhood of Pretoria, apparently occurring side by side with *robertsi*.

Abdominal shield.—The upper surface of the shield is very strongly curved from side to side, but less curved in a longitudinal line: on a transverse vertical section across the middle of the shield, the cut edge of the upper surface would show an almost semicircular outline. Viewed from above, the upper surface is broadly oval. Viewed from the side, the line of junction between the upper and marginal surfaces is not straight, but curved forwards considerably in the middle. The marginal surface is nowhere deep: it is deeper anteriorly than elsewhere and is usually most reduced laterally: throughout it is definitely marked off from the upper surface and, except immediately at the posterior end, its surface is free from the coarse punctuations which cover the whole of the upper surface. However, the line of junction between the two surfaces does not usually form a very strongly-defined continuous ridge. A definite ridge occurs posteriorly, yet its continuation forwards is not along the line of junction between the two surfaces, but for a short distance along the lateral portion of the dorsal surface on each side: this ridge is feebly developed and usually occurs only in the posterior half of the shield, but in one of the Rietfontein specimens extends well into the anterior half of the shield. In a small specimen from Elandsfontein, and in two immature examples from Skinner's Court, the line of junction between the two surfaces forms a sharp, slightly-upturned, continuous ridge all round. In two examples from Garstfontein the ridge, which in specimens from other localities occurs in the posterior half of the shield, is quite absent and the marginal surface posteriorly becomes almost completely reduced.

The upper surface is polished and has no long hairs nor setae. Immediately in front of the shield, on the dorsal surface of the abdomen, the soft skin presents several well-defined transverse rows of short setae, whilst ventrolaterally the oblique lines of setae are strongly developed.

Carapace without long bristly hairs on any part of its surface or with only one or two on the head region dorsolaterally or between the eyes.

Measurements.—Total length 18 mm., length of carapace 7, breadth of carapace 5·25, length of upper surface of shield 9·5, breadth of upper surface of shield 7·75.

This species is probably closely related to *G. scutatum*, Purc., from Krugersdorp. As already indicated in the description, a considerable variation exists in the development of the demarcation line between the upper and lateral surfaces, but in *scutatum* no such line occurs.

Galeosoma pilosum, sp. nov. (Plate XXVI, figs. 5, 6, and 7.)

Types.—A series of adult female specimens from Mayville, Wonderboom Poort, Pretoria College, Koedoespoort, Garstfontein, and Lyttelton Junction, localities all in the neighbourhood of Pretoria, collected by Messrs. G. van Dam and A. Roberts (March–April, 1915). This form is undoubtedly closely related to *pallidum* from Saltpan, and perhaps should be placed as a variety thereof: the forms *pallidum*, *pilosum*, *hirsutum*, and *coronatum*, constitute a gradational series, and though the two extremes differ greatly it would be difficult to separate them specifically without also assigning specific distinction to the intermediate forms which moreover are fairly sharply defined.

Abdominal shield resembling that of *pallidum* in shape, but covered with rather long hairs. Upper surface flattish and usually sub-rotund in outline: posterior edge broadly rounded, quite sharp, and a little upturned, anterior edge ill-defined or obsolete. Marginal surface posteriorly only faintly pitted, as a rule, but occasionally rather coarsely pitted. The skin on the upper surface of the abdomen immediately anterior to the shield carries no such rows of setae as occur in *schreineri*, but there are a number of long rather sparsely distributed setae, like the hairs on the shield: such setae do not occur in *pallidum*.

Carapace with a number of long bristly hairs on the raised head region dorsolaterally and also between the eyes of the posterior group, a specially long one projecting forwards between the anteromedian eyes.

Measurements.—Total length 19 mm., length of carapace 7·6, breadth of carapace 6, diameter of circular margin of upper surface of shield about 7·8, depth of marginal surface measured on mid-line anteriorly about 4·75.

In the newly-hatched young of this species there is no trace of an abdominal shield: the abdomen is purplish dorsally and shows indication of a number of white cross stripes.

It may be noted that four pairs of sternal sigilla are sometimes present in this species, the two posterior pairs being very small.

A small character, but a very constant one in this form, is the sharp posterior edge of the upper surface of the shield: the anterior edge of that surface is a very variable character, sometimes being carried forwards, so that the upper surface becomes a little elongated and the marginal surface anteriorly considerably reduced. In a young specimen from Garstfontein the edge of the upper surface is ovoid in shape, and very sharp and upturned throughout: the two surfaces are thus very strongly marked off. Two other examples in which the line of junction between the two surfaces is formed by a sharp continuous ridge were taken at Lyttelton Junction: in these specimens, which are considerably smaller than an average adult of *pilosum*, the upper surface is sub-rotund in outline.

Galeosoma hirsutum, sp. nov. (Plate XXVI, figs. 1 and 2).

Types.—A series of female examples from Roodeplaat and from Zeekoegat, near Pretoria, collected by Messrs. G. van Dam and A. Roberts (1st and 2nd April, 1915).

Abdominal shield.—The upper surface is decidedly convex and is oval in outline, the marginal surface in the mid-dorsal line anteriorly being

not so much drawn out as in *pilosum*. The posterior upper edge of the shield is fairly well-defined, but is not so strongly acute as in *pilosum*. The distinction between upper and marginal surfaces is well maintained all round, but the edge in front is not well marked. The marginal surface is deepest anteriorly, shallowest posteriorly : posteriorly, as well as elsewhere, it is coarsely pitted. The shield is densely bearded throughout, more strongly so than in *pilosum*. Its upper surfaces often present a roughened or corrugated appearance, the intervening spaces between the punctuations being rarely so flattened as in *pilosum*.

In the mid-dorsal region, just in front of the shield, the soft skin of the abdomen presents several fairly distinct transverse rows of longish setae, and amongst them some still longer and stiffer setae : ventrolaterally, the oblique rows of bristles give to the area a bearded appearance in naked eye view. This is a very constant character in the species.

Carapace with a number of long bristly hairs on the raised head region dorsolaterally and between the eyes of the posterior group.

Measurements.—Total length 20·5, length of carapace 7·8, breadth of carapace 5·8, length of upper surface of shield 10·25, breadth of upper surface of shield 8, depth of marginal surface measured anteriorly about 3 mm.

In very juvenile specimens the shield has the appearance of a very thick regular disk with polished surfaces. The smoothed marginal surface is sharply defined all round, the flat upper surface presenting a continuous subcircular edge which even in front is fairly acute.

This species differs from *pilosum* in the shape of the shield and in the stronger development of hairs thereon, and on the soft skin of the abdomen dorsally. The series exhibits a little variation in the form of the shield and in the convexity of its upper surface, one specimen from Zeekoegat approaching the *coronatum* condition : the latter species is, however, much less hairy. Some rather small specimens from Witfontein, near Pretoria North, have a subcircular upper surface and anteriorly the two surfaces almost merge indistinguishably. In juvenile specimens the posterior edge of the upper surface is quite sharp. A single specimen was taken at Rosslyn.

A series of specimens collected at Derdepoort is clearly referable to *hirsutum*, but presents minor differences in the form of the shield. They differ from the types in that the junctional line between the two surfaces of the shield is less closely defined : in this series, the posterior edge of the upper surface is often quite weak, its forward continuation being lost on the curved upper surface, whilst a new line of junction is formed between the two surfaces shaped somewhat like that of *robertsi*, being deepest anteriorly and curved forwards laterally. This line is often very weak or indefinite at the sides : anteriorly it may be weak, but is never so obsolete that the marginal and upper surfaces completely merge as often occurs in *pilosum*.

It may be noted that the ocular characters in this species vary considerably. The posterior median eyes may be a trifle nearer to each other than to the posterior laterals or vice versa.

Heligmomerus astutus (Hewitt).

This species, founded on an adult male example, was described as an Idiops (Annals Natal Museum, III, pt. 2).

A large female example in the Rhodesian Museum, presumably belonging to this species, was taken in June, 1915, at Bulawayo, by Mr. Ericsson. It is evidently very closely related to *H. caffer* Purcell, and may be specifically identical therewith or with *H. deserti* Pocock. It seems to differ very slightly from a Moorddrift specimen which is provisionally referred to *caffer* in the arrangement of the posterior row of eyes: in the Bulawayo example, the distance between the posterior medians is scarcely more than $1\frac{1}{4}$ times as great as the distance between a posterior median and posterior lateral, whilst in the Moorddrift example the distance between the posterior medians is quite $1\frac{1}{2}$ times as great as that between the posterior median and posterior lateral.

Pelmatorycter nudus, sp. nov.

Type.—A single adult male example found under a stone at Little Wonderboom, Magaliesberg, by Mr. A. Roberts (6th June, 1915). This species is at once distinguished from *pretoriae* in the general absence of long hairs on the surfaces of the body and appendages. There are no long hairs on the anterior surface of the chelicerae and none on the legs: the abdomen is clothed with short fine hairs superiorly, and on the mesial area above, there are three pairs of short slender spines and a group of such spines occurs on the anterior portion of the upper surface.

Other characters are as follows:—

Pedipalp.—At the distal end of the femur superiorly on each side is a short, dark-coloured, horny projection, and a short distance behind the apex the superior surface is slightly raised into two small, rather indistinct humps adjacent to each other. Tibia much shorter than that of *pretoriae*, but the style of the bulbal organ hardly reaches back half-way along the tibia. Pressed forwards, the palp only extends as far as the basal fifth of tibia I. Maxilla without denticles at the anterobasal angle inferiorly.

Legs.—Tarsus I with a single spine on the posterior side near the apex, II with 2 spines on the posterior side, III with 3 spines on each side distally, IV also with about 3 on each side distally. Metatarsus I with 3 spines at the apex inferiorly and in addition the lower surface has 2–6 spines, II with 3 at the apex and 4 on the lower surface, IV with about 5–6 spines on the lower surface besides those at the apex, and, in addition, 2 on the posterior surface. Tibia I inferiorly with 3 strong spines at the apex, 10 spines in 2 rows on the lower surface, also 5–10 on the anterior surface and 1 on the posterior surface near the base. Patella III with 12 or 13 spines on the anterior surface and 4 on the dorsal surface; IV without spines or only 1 inferiorly near the apex. Tarsal claws of first leg with 7 or 8 teeth in each row, of fourth leg with 6 or 7 teeth in the inner row, and 5 or 6 in the outer row.

Chelicerae.—The left jaw has 7 teeth in the inner row (dentition of right jaw abnormal).

Posterior spinners.—Apical segment apparently a trifle shorter than the middle segment.

Posterior sternal sigilla pear-shaped, above 1½ diameters apart, but only half a diameter distant from the sternal margin.

Colour.—Carapace and chelicerae dull reddish-brown: legs and palps pale-brown: abdomen above pale-purple with a paler mesial stripe.

Total length 11 mm., length of carapace 4·25.

This very distinct species is perhaps identical with *Ancylotrypa bicornuta* Strand, a species quite insufficiently described and somewhat indefinitely located "Kap der guten Hoffnung" (Jahrb. Nassau. Verein Naturk., Wiesbaden No. 35, 1906).

Female.

The female of this species, collected in the same locality (14th June, 1915), by Messrs. Van Dam and Roberts, seems to be much like *pretoriae*, but very much smaller.

The more important characters are as follows:—

Coxa III without a conspicuous tuft of stiff hairs on its post-ventral margin: posterior sternal sigilla about a diameter distant from the sternal margin and about 1½ diameters apart or more: chelicerae with 8 teeth in the inner row: maxillae with 1 or 2 small denticles at the anterobasal angle inferiorly, or none at all: there is rather a strong development of setae on the sternum, those anteriorly especially being almost spiniform: posterior spinners with the apical segment about as long as the middle segment: fourth tarsal claws with several teeth in each row: abdomen subcylindrical, but not much elongated.

Total length 15·5, length of carapace 4·4.

Two adult males and a series of females were taken by Mr. G. van Dam at Wonderboom Poort, Magaliesberg (2nd March, 1916). The males agree with the type except as follows:—

Chelicerae with 8 or 9 teeth, in which latter case one of the teeth near the base of the series is very small: tibia I with 8 spines in 2 rows inferiorly, excluding those at the apex and at the sides: patella III with 2 or 3 spines on the dorsal surface. Colour of carapace pale reddish-brown or dull purplish-brown.

The female is not easily distinguished from the young of *pretoriae*. It is, however, more deeply pigmented, the abdomen being dark-purplish above, and the margins of the carapace posteriorly and laterally are purplish.

The structural characters are as follows:—

Coxa III without a definite patch of coarse setae on the post-ventral border: maxillae with one or several denticles at the anterobasal corner: chelicerae with 7–9 teeth: posterior sternal sigilla large, about a diameter or a trifle more apart and about ½ a diameter distant from the sternal margin: metatarsus I and II with 2 spines inferiorly apart from those at the apex: terminal segment of posterior spinners a trifle shorter than the middle segment, or subequal thereto: sternum and ventral surfaces of coxae with numerous scattered, long and stiff, black setae.

Total length 14·8, length of carapace 5·25, breadth of carapace 3·75.

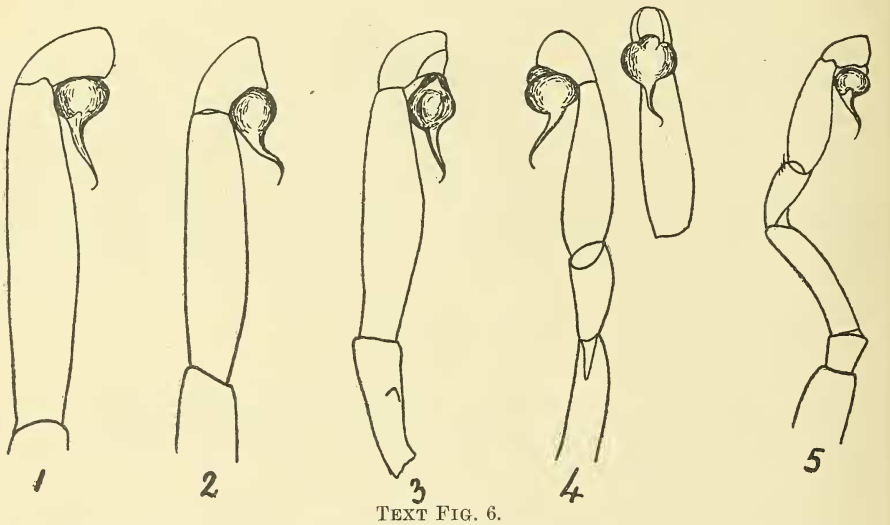
Lastly, male and female examples of this species have recently been taken at Wolhuters Kop, Rustenburg District, by Mr. G. van Dam.

Pelmatorycter pretoriae, Hewitt. (Plate XXVI, fig. 9, and text fig. 6, No. 1.)

(Records Albany Museum, Vol. II, p. 427.)

The tibia of the male palp is considerably elongated in this species. Stretched forwards the apex of the palp reaches a point about $\frac{4}{5}$ of the distance along tibia I. The chelicera has 8 teeth, the maxilla is without denticles, and coxa III is devoid of a distinct patch of stiff setae on the post-ventral border. Metatarsus III is not scopulate inferiorly and presumably IV is likewise (but is absent from the specimen).

Females which I refer to this species have been taken in various parts of the Pretoria District, but none have been collected in the actual



TEXT FIG. 6.

Pelmatorycter spp.—Terminal segment of male palp, equally enlarged, in 1. *P. pretoriae* Hewitt; 2 *P. dreyeri*, sp. nov.; 3. *P. bulcocki*, sp. nov.; 4. *P. brevipalpis*, sp. nov.; 5. *P. parvus*, sp. nov.

locality from which the type male was obtained. Some very large specimens, indeed the largest specimens of this genus yet recorded, were taken between Lyttelton Junction and Irene. The chief characters of that series are:—

Chelicerae with 9–10 teeth: maxillae without cusps at the antero-ventral basal angle, but weak-pointed spinules may occur scattered about on the ventral surface generally: coxa III without a patch of strong setae on the posterior border below: metatarsus I thickly scopulate to the base over the ventral surface and on each side below: II likewise, but on the posterior side the scopula is weak near the base: claws of tarsus IV without teeth, or with one or two very weak ones near the base of the claw: posterior sternal sigilla subcircular or oval, about $\frac{1}{3}$–$\frac{1}{2}$ of a diameter apart, and about 1–$1\frac{1}{3}$ diameters distant from the sternal margin: apical segment

of posterior spinners a trifle shorter than the middle segment: anterior median eyes slightly raised on a tubercle, about $1\frac{1}{2}$ to nearly 2 diameters apart and about $1\frac{1}{2}$ diameter distant from the anterior laterals: posterior medians small, posterior laterals a trifle longer than the distance between the anterior and posterior laterals: abdomen elongate ovoid, rather than subcylindrical as in *P. brevipalpis*.

Specimens from the same locality, which I suppose to be merely half-grown examples of the same species, have the following characters:—

Chelicerae with 8 teeth: maxilla with 1 or 2 cusps at the anterior basal corner below, and, in addition, some small weak spinules scattered about on the ventral surface: the scopula on metatarsus II posteriorly is not continued to the base: claws of tarsus IV with distinct teeth, sometimes 4: posterior sternal sigilla elongated and pear-shaped.

Measurements of large specimen taken between Lyttelton Junction and Irene.—Total length 32 mm., length of carapace 11·25, breadth of carapace 9 mm.

Other examples of this species were taken by Messrs. A. Roberts and G. van Dam at Mayville, Pretoria North, Wonderboom Poort, Skinners Court, between Villieria and Derdepoort, Roodeplaat, Zeekoegat, near Roodeplaat, and from Schoemans Rust, near Crocodile River Bridge; the specimen from the last locality is young and has rather widely separated sigilla.

Pelmatorycter pretoriae, Hewitt, var. nov. *rufescens*.

Type.—An adult male from Roodeplaat, Pretoria District, collected by Mr. G. van Dam (22nd May, 1915). A second example was subsequently taken in the same locality.

This form is somewhat smaller than the type of *pretoriae* (Records Albany Museum, II, p. 427), which came from Garstfontein, but principally differs therefrom in the complete absence of a scopula at the apex of metatarsus II inferiorly. Other characters are:—Metatarsus I with only a very short scopula at the apex inferiorly: II with 2 spines (instead of 1) along the ventral surface: tibia II with 2 or 3 spines (instead of 4) on the lower surface: no spines on any of the tarsi, except in the second example, which has a single spine on the anterior side of tarsus IV: no denticles at the anterobasal angle of the maxillae: tibia of palp hardly so long as in *pretoriae*, relatively to the length of the palpal organ (this character not quite identical in the two examples): pressed forwards the palp extends to a point about $\frac{3}{4}$ of the distance along tibia I: apical segment of posterior spinners decidedly shorter than the penultimate segment (apparently subequal in *pretoriae*).

Colour.—Carapace and appendages pale reddish-brown, darker on the cephalic area.

Measurements.—Total length 14 mm., length of carapace 4·7.

Female.

A female example preserved in the same tube with the type presents the following characters:—9 teeth on the fang groove: maxillae with 4 or 5 small cusps at the anterobasal angle (only 1 or 2 in another example

from same locality) : no stiff setae on the post-ventral border of coxa III : posterior sternal sigilla about $\frac{2}{3}$ of a long diameter apart, and about the same amount distant from the sternal margin. The distal segments of the palps and first two pairs of legs from the patella onwards are noticeably paler than the more basal segments.

Total length 20 mm.

At present I am unable to distinguish between the females of this variety and of the typical form.

Pelmatorycter brevipalpis, sp. nov. (Text fig. 6, No. 4.)

Type.—An adult male example from Roodeplaat (17 miles north-east of Pretoria), collected by Messrs. G. van Dam and A. Roberts (5th April, 1915).

Colour.—Carapace and appendages dull olive-brown throughout : abdomen dull-purplish above.

Chelicerae with 6 or 7 teeth in the inner row.

Pedipalps.—Pressed forwards, the apex of the palp reaches a point only a trifle beyond the apex of the patella of the first leg. Tibia comparatively short, the tip of the spine of the bulbal organ reaching back to a point about half-way along the length of the tibia. Maxilla with 2 denticles at the anterobasal corner.

Legs.—Tarsi completely without spines. Metatarsi quite without scopulae. Tibia I very slightly longer than metatarsus I. Metatarsus I with 1 spine at the apex inferiorly and 2 along the lower surface : II with 2 or 3 at the apex and 2 on the lower surface. Tibia I with 2 or 3 spines at the apex inferiorly and 2 on the lower surface, but none on the sides. Coxa III with a patch of bristles along the posteroventral border : this patch is not so dense as in the female. Patella IV without spines. Claws of tarsus IV (absent from one leg) with an inner row of 7–9 teeth and an outer row of about 3 or 4 teeth.

Posterior spinners with apical segment slightly shorter than the middle segment.

Posterior sternal sigilla about $\frac{1}{3}$ of a diameter distant from the sternal margin and nearly 2 diameters distant from each other.

Ocular area apparently not very distinctive. Distance between anterior and posterior lateral eyes scarcely equal to $\frac{1}{3}$ of the length of the posterior laterals (in *pretoriae* equal to quite $\frac{2}{3}$ or more of the length of the posterior laterals).

Abdomen with long bristles, but no spines at the base above.

Measurements.—Total length 11·75 mm., length of carapace 3·75 mm.

The weak development of spines on the tibia of the first leg is a marked feature of this species.

Female.

In the same tube as the type male there is a small female which no doubt belongs to the same species, but may not be quite mature. Its chief characters are as follows :—

Chelicerae with 6 teeth on the fang groove.

Maxilla with 1 or 2 denticles at the anterobasal angle inferiorly.

Legs.—Coxa III with a patch of stiff setae on the post-ventral border. Metatarsus I with 2 or 3 apical spines below, and 2 or 3 along the inferior surface: II with 3 apical spines below and 2 along the inferior surface: III with 6–8 spines dorsally on each side, 3 at the apex inferiorly, and 1 or 2 on the lower surface: IV with about 14 spines inferiorly on the anterior side, superiorly with only 2 or 3 weak spines on the posterior side.

Posterior spinners.—Apical segment a little shorter than the middle segment.

Posterior sternal sigilla about $1\frac{1}{3}$ diameter apart and about $\frac{1}{3}$–$\frac{1}{2}$ of a diameter distant from the sternal margin.

Colour.—Cephalic region pale-yellowish: rest of carapace brown like the legs. Abdomen not strongly infuscated above, but with a dull-purplish tinge anteriorly.

Measurements.—Total length 13·5 mm., length of carapace 4·25 mm.

The Transvaal Museum has a larger specimen from the same locality, which I refer to this species. It has 7 teeth on the chelicerae, 4 or 5 denticles on the maxilla, posterior sternal sigilla about a diameter apart and $\frac{1}{3}$–$\frac{1}{2}$ of a diameter distant from the sternal margin, metatarsi II and III with 4 spines along the inferior surface. The total length is 18·5 mm.

Mr. G. van Dam has recently taken an adult female example from a spot situated only a few inches away from the place where the type male was found. Some of its characters are:—7 cheliceral teeth on one side, 8 on the other side, one of them being very small: metatarsus I with 3–4 spines inferiorly apart from those at the apex, II with 3–6 spines inferiorly: the fovea is broadly curved. In the immediate neighbourhood some immature female examples of *P. pretoriae rufescens* were taken: these have the fovea more acutely curved, metatarsi I and II have only 2 spines inferiorly, and the coxa III character is very distinct.

From various localities in the Pretoria District female specimens have been taken, which seem to be referable to the same species, but this identification cannot be regarded as final until male examples from those localities become available.

Specimens resembling this form are known from Lyttelton Junction (G. van Dam and A. Roberts), where also several examples of *pretoriae* were taken.

At the Hogsback, near Lyttelton Junction, a large female with young was taken (20th April, 1915). Its total length is 20 mm., the carapace length 7 mm. There are 8 cheliceral teeth, 5 strong cusps on the maxilla, posterior sternal sigilla about a diameter apart and $\frac{3}{4}$–$\frac{4}{5}$ of a diameter distant from the sternal margin, the terminal and middle segments of the posterior spinners subequal in length, metatarsus II with 3 apical spines inferiorly, and 3 on the lower surface, metatarsus III with 4 spines at the apex inferiorly, also 4 on the lower surface, and about 12–14 on each side dorsally.

In a large specimen from Koedoespoort, the posterior sternal sigilla are scarcely more than $\frac{2}{3}$ of a long diameter apart, and in one from Schoeman's Rust, near Crocodile River Bridge, they are a trifle less than a diameter apart.

The species has also been taken at Hatfield (G. van Dam).

Pelmatorycter barbertoni, Hewitt. (Records Albany Museum, II, p. 430.)

The type presents the following characters not mentioned in the original description :—On the post-ventral border of coxa III there is a distinct patch of stiffish setae : pressed forwards, the tip of the palp reaches about as far as the first third of tibia I : tibia of palp elongated, yet not quite so much as in *pretoriae* (type) : 7 teeth on the fang groove : no denticles on the maxilla.

The female has the following characters :—Coxa III with a well-marked tuft of stiff setae along its post-ventral border : chelicerae with 7 teeth.

Pelmatorycter parvus, sp. nov. (Text fig. 6, No. 5.)

Type.—A single adult male from Alicedale, collected in May, 1915, by Mr. F. Cruden.

Three species of Pelmatorycter appear to exist at Alicedale, judging from Mr. Cruden's series of adult females. Two of them I have already described (Records Albany Museum, III, pp. 72 and 104) : the third and smallest species I have previously referred with some doubt to *P. lateralis* Purc., but I now believe it to be distinct.

It is not clear from the structure of *parvus* to which of the three feminine species it should be attached, but Mr. Cruden suspects that it belongs to the smallest species, as the example was found in a locality where that species is known to occur and where the largest species, *crudeni*, at any rate, seems to be absent.

Probably *P. parvus* will prove to be nearly related to *Ancylotrypa cornuta* Purcell, from Dunbrody. The characters are as follows :—

Chelicerae with 6 teeth on the fang groove.

Pedipalps.—Pressed forwards, the palp extends to the apex of patella I. Tibia short, the spine of the bulbal organ extending back more than half-way along the length of the segment. At the apex of the tibia superiorly are 1 or 2 weak spines. No denticles on the maxillae.

Legs.—All the metatarsi are scopulate distally below. Tarsi I and II without spines, III with 1 or 2 weak spines on each side near the apex, IV with a row of 5 or 6 spines on the anterior side, but none posteriorly. Metatarsus I with 3 spines at the apex inferiorly and about 6 on the lower surface, II with 3 at the apex inferiorly and 4 or 5 on the lower surface. Tibia I a trifle longer than metatarsus I, with 3 spines at the apex inferiorly, about 8 on the lower surface, comprised in two rows of which the outer includes 4 long spines and the inner 4 shorter and weaker ones, besides which on the inner surface are 1 or 2 short spines and on the outer surface 2 or 3 short spines. Post-ventral border of coxa III without a distinct compact tuft of stiffish setae, but short scattered stiffish setae occur over a considerable portion of that area, as is not the case on coxa II. Femur IV with a rastellum at the apex superiorly, composed of short but strong spines. Claws of tarsus IV with about 6 teeth in each row.

Carapace.—Only very few spines on the hind portion and sides of the carapace and they are very short. Posterior lateral eyes distant from the anterior laterals about half the length of the former.

Abdomen.—Anteriorly the upper surface carries some short stout bristles.

Posterior spinners with apical segment only a trifle longer than the middle segment.

Posterior sternal sigilla submarginal, about 3 diameters apart.

Colour.—Dark olive-brown, the carapace nearly black, the abdomen dull-purple.

Measurements.—Total length 8 mm., length of carapace 3 mm.

This species is very lacking in hairs which often fringe the legs of male Pelmatorycters. It is, on the other hand, more bristly than usual: the apical margins of the coxae and trochanters of the legs is fringed with stiff bristles or in places with actual spines.

The female, previously referred to by me under the name of *lateralis*, is also characterized by a rather strong development of stiffish setae on the sternum and appendages, but these are by no means so well developed as in the male. Its most striking character is the wide separation of the posterior sternal sigilla which are 2 diameters, more or less, apart, and about ½ a diameter, or less, distant from the sternal margin: the chelicera carries 7 or 8 teeth. The tuft of setae on the post-ventral border of coxa III is not very dense. The abdomen is elongated, subcylindrical.

Pelmatorycter sororum, sp. nov.

Type.—A single adult male example from Bedford, Cape Province, collected for the Albany Museum by the Sisters of the Bedford Convent.

Colour.—Carapace and appendages pale yellowish-brown, the radial depressions of the carapace and the median line from the fovea forwards being darker than the remainder of the carapace: abdomen dark-purplish above with traces of about 5 or 6 pale cross stripes, the lateral and ventral regions pale.

Chelicerae with 7 teeth on the fang groove.

Pedipalps.—Pressed forwards, the apex reaches as far as the basal third of tibia I. Maxillae without denticles at the inferobasal angle. Tibia rather short, the spine of the palpal organ reaching backwards practically half-way along that segment.

Legs.—None of the metatarsi are scopulate below, though a few scattered scopular hairs may exist at the apex of metatarsus I. Tarsus I without spines, II with 2 spines on the posterior side, III with 2 or 3 dorsal spines, also 3 on the anterior side and 2 or 3 on the posterior side, IV with a row of 6 spines on the anterior side and 5 on the posterior side. Metatarsus I with 3 spines at the apex inferiorly and about 4 on the lower surface, II with 3 at the apex and 3 or 4 on the lower surface. Tibia I subequal in length to the metatarsus, with 3 spines at the apex inferiorly, also about 9–11 on the lower surfaces and 2 or 3 on the anterior surface. Coxa III without a distinct compact tuft of stiffish setae post-ventrally. Claws of fourth tarsus with about 5 teeth in each row.

Posterior spinners.—Terminal segment distinctly shorter than the middle segment.

Carapace.—The spines on the posterior portion well developed. Distance between the anterior and posterior lateral eyes about equal to half the length of the latter.

Posterior sternal sigilla about 2½–3 diameters apart and about ½ a diameter distant from the sternal margin.

Measurements.—Total length 9·5 mm., length of carapace 3 mm.

Female.

The type male is accompanied by a small female example, the more important characters of which are as follows :—

Colour.—The abdomen superiorly is striped: anteriorly, the dark stripes tend to fuse, but in the posterior half three very distinct and rather broad stripes occur. Carapace and legs pale-brown.

Legs.—Coxa III without a post-ventral tuft of stiff setae. Metatarsi I and II with 2 or 3 spines at the apex inferiorly and 2 along the lower surface, III with 7 or 8 spines on each side superiorly and 2 in the mid-dorsal region, IV with 2 spines superiorly on the posterior side and about 10 spines inferiorly, including those at the apex.

Ocular area.—Posterior lateral eyes elongated, quite as long as the distance between anterior and posterior laterals. Posterior medians larger than the anterior medians and equidistant from anterior medians and posterior laterals.

Posterior spinners.—Apical segment a trifle shorter than the middle segment.

Chelicerae with 7 teeth on the fang groove.

Maxilla without denticles at the anterobasal angle inferiorly.

Posterior sternal sigilla large, pear-shaped, rather less than ½ a diameter distant from the sternal margin and a trifle more than a diameter apart.

Length of carapace 4 mm.

Pelmatorycter bulcocki, sp. nov. (Plate XXVII, figs. 1 and 2, text fig. 6, No. 3.)

Type.—A single adult male, collected for the Albany Museum, at Ngqeleni, Cape Province, by Mr. H. L. Bulcock, B.A., during April, 1915.

Colour.—Carapace and upper portion of chelicerae bright red: legs and abdomen blackish.

Chelicerae with 8 teeth on the fang groove (on one side 9, including a very small denticle near the base of the row).

Pedipalps.—Pressed forwards, the apex reaches a point about ⅔ of the distance along tibia I. Tibia not greatly elongated, the tip of the spine of the bulbal organ reaching backwards nearly half-way along the tibia. Maxillae without denticles.

Legs.—The metatarsi are all densely scopulated distally below. Tarsus I without distinct spines or with a very weak one on the posterior surface inferiorly near the apex, II with 2 spines inferiorly on the outer side, III with 2 spines on the anterior surface superiorly and 1 or 2 on the posterior surface, also 4 or 5 on each side of the inferior surface, IV with a strip of spines on each side in its lower half. Metatarsus I with 3 spines at the apex inferiorly and 2 on the lower surface, II with 3 at the apex

inferiorly and 2–4 on the lower surface. Tibia I with 3 spines at the apex inferiorly, and a series of long strong spines on the lower surface on its posterior side and about 6 or 7 long spines on the anterior side. Patella IV without spines. The rastellum at the apex of femur IV superiorly composed of short weak spines. Coxa III with stiffish setae post-ventrally, but the patch is not marked off from the setae on the rest of the surface. Claws of tarsus IV with an outer row of 3 or 4 teeth and an inner row of about 7 teeth.

Posterior sternal sigilla about 1 diameter apart and about ½ a diameter distant from the sternal margin.

Abdomen with long bristles, but no spines at the base above.

Posterior spinners.—Apical segment a little longer than the middle segment.

Ocular area.—Anterior margin of anterior row of eyes in a rather strongly procurved line. Anterior laterals very much larger than any of the other eyes: anterior medians comparatively small. Posterior laterals small, their distance from the anterior laterals slightly greater than the long diameter of the posterior lateral.

Measurements.—Total length 13·3 mm., length of carapace 5·3.

Female.

The female of this species is very similar to that of *P. magnisigillata* mihi, described from Kokstad (Records Albany Museum, III, p. 33). The only apparent difference lies in the spinulation of the anterior surface of patella IV: in *bulcocki* the spinules occur only at the actual base of the segment, whereas in *magnisigillata* scattered spinules extend over the basal half of the segment intermingled with bristles. There are 8 teeth below the chelicerae. Coxa III without a post-ventral tuft of stiff setae. The apical segment of the posterior spinners is a trifle longer than the middle segment. The abdomen is infuscated throughout except on the genital sternite and over the lungs.

Total length 27·5, length of carapace 7·8.

This species is remarkable in the colouration of the adult male, for so far as is known its contrasted deep black and red colours are not found in the males of any other species. Such a combination is well known, however, in the genus *Stasimopus*.

The genus *Pelmatorycter* can be divided into two fairly distinct groups, according to the presence or absence of a conspicuous tuft of closely-aggregated stiffish setae on the post-ventral border of the third coxa.

This tuft is present in the following species: *crudeni*, *dreyeri*, *vryheidensis*, and *brevipalpis*.

It is absent from *magnisigillata*, *bulcocki*, *flavidofusulus*, *sororum*, *pretoriae*, and as no mention of this character is found in Dr. Purcell's descriptions I suppose that *dentatus*, *lateralis*, *o'neili*, and *schultzei* should be included here. The character is one which seems to be exhibited more distinctly in females than in males, so that it may not be possible in some cases to refer an undetermined male to either of the above sections, and we may anticipate also that females will be found which are more or less

intermediate. The males of the different species differ greatly in the development of long hairs or of short stout setae on the legs.

The following artificial key, based on the characters of adult males, is submitted as a rough guide to the species already known :—

1. Femur of pedipalp slightly produced at the apex superiorly into two short processes (Wonderboom, Pretoria)..* *P. nudus*, sp. nov.
   With a single short " horn " at the apex of the palpal femur superiorly (Dunbrody).....*P. cornuta* (Purcell).
   Femur of palp not produced at its apex superiorly into processes 2
2. All the metatarsi scopulate distally below..... 3
   Some or all of the metatarsi not scopulate below..... 4
3. Palps and legs all very hairy (Ngqeleni)....*P. bulcocki*, sp. nov.
   Palps and legs not hairy, but covered with short stiffish setae (Alicedale).....*P. parvus*, sp. nov.
4. Metatarsus I and usually also II distinctly scopulate inferiorly near the apex..... 5
   Metatarsus I and II not scopulate below..... 8
5. Tarsus II with 4 small outer spines, IV with a distal group of small spines internally and a double series of longer spines externally (Johannesburg).....*P. nigriceps* Purcell.
   Tarsus II without spines or with 2 on the outer side, IV with no external spines or 1–4 small ones and with none or only 1 or 2 internally situated..... 6
6. Coxa III with a tuft of stiff setae post-ventrally : abdomen without long hairs above..... 7
   Coxa III without a tuft of stiff setae post-ventrally : abdomen clothed above with long hairs (Garstfontein, near Pretoria). *P. pretoriae* mihi.
7. Patella of palp without spines (Bloemfontein)..*P. dreyeri* mihi.
   Patella of palp with 2 spines anteriorly near the apex (Barberton). *P. barbertoni* mihi.

†8. Tibia of palp elongated..... 9
   Tibia of palp rather short..... 10
9. Posterior sternal sigilla very large, pear-shaped, confluent in the mid-line (Steinkopf).....*P. namaquensis* Purcell.
   Posterior sternal sigilla apparently about a long diameter apart (Matjesfontein).....*P. pallidipes* Purcell.
10. Coxa III with a tuft of stiff setae on its posterior ventral border (Roodeplaat, near Pretoria).....*P. brevipalpis*, sp. nov.
    Coxa III without a tuft of stiff setae on its posterior ventral border (Bedford).....*P. sororum*, sp. nov.

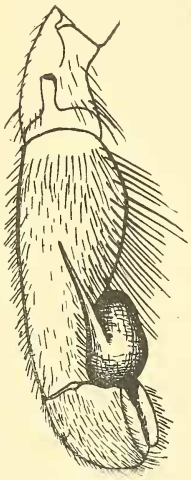
Spiroctenus (*Homostola*) *zebrina* Purcell. (Text fig. 7.)

Mr. A. Roberts has taken specimens of this species from the following localities :—Forbes Reef (Swaziland), Lake Chrissie, Steynsdorp, Lochiel (Ermelo District), from Elandspruit, Oshoek, and Tevreden (in the Carolina

* This may possibly prove to be the same as *Ancylotrypa bicornuta* Strand from Kap der guten Hoffnung."

†*Ancylotrypa pusilla* Purcell, from Hanover, seems to come in this section.

District), from Doornhoek (Komati River), and from Bon Accord (Pretoria District). In a male from Forbes Reef the fourth tarsus is scopulate to the base on each side. As no figures relating to this species have been hitherto published I take this opportunity of giving a drawing of the male palp.



TEXT FIG. 7.

Spiroctenus (*Homostola*) *zebrina* Purcell. Palp of adult male from Forbes Reef, Swaziland.

Stasimopus suffuscus, sp. nov.

Type.—A single adult female example from Beerlaagte, Heidelberg District, collected by Mr. G. van Dam (10th March, 1915). Besides the type two other specimens were taken, one being sub-adult and the other about half-grown.

Ocular area.—The eyes (clear area) are all unusually small. Width of ocular area very slightly exceeding the length of metatarsus I. Distance between anterior and posterior lateral eyes equal to 2–2½ times the long diameter of the former, but 3–4 times the long diameter of the latter. Distance between anterior lateral and anterior median eyes quite equal to twice the long diameter of the latter. Posterior medians rounded, their distance from the posterior laterals rather more than twice the long diameter of the former.

Pedipalp.—Tibia with a group of short spinules at apex above. Tarsus with a basal patch of spinules dorsally, extending about ⅕ of the length of the segment. Band of spines on inner side of tarsus, extending to the base.

Legs.—Tibia I only slightly shorter than metatarsus I. Inner surface of tibia I with 10–15 short spines, the upper surface with a small apical patch of spinules extending over nearly ⅓ of the length of the dorsal surface. Basal patch of spinules on metatarsus I above extending over

about $\frac{1}{4}$ of the length of the dorsal surface. Basal patch of spinules on metatarsus II above only a trifle longer than that at the apex of the tibia. Inner surface of tibia II with 7–9 spines. Anterior surface of metatarsus III with a band of about 34 spines. Patella III with about 9–12 short spines on its anterior surface: at the distal end above there are a few rather weak spines and some spiniform setae. Metatarsus III without an apical tuft of spines below. Inferoposterior apical tuft on metatarsus IV composed of 4–6 spiniform setae arranged in a transverse row.

Colour.—Carapace and appendages castaneous. Upper surface of abdomen rather strongly infuscated.

Measurements.—Total length 33 mm., length of carapace 13·3, breadth of carapace 12, length of metatarsus of first leg 4·9.

This species is closely related to *S. dreyeri* mihi, from Kroonstad (Records Albany Museum, III, p. 86). It differs therefrom chiefly in the ocular characters, the eyes of *dreyeri* being longer and more closely approximated than in the species now described. The difference between these two forms is therefore much the same as that between *S. schönlandi*, Poc., and *S. astutus*, Poc.

Stasimopus robertsi, mihi. (Pl. XXVII, figs. 3 and 4.)

Female examples of this species have been taken from the following localities in the Pretoria District by Messrs. G. van Dam and A. Roberts: Wonderboom Poort, Mayville, Pretoria North, Witfontein (near Pretoria North), Skinner's Court, Bon Accord Siding, Lyttelton Junction, Brooklyn, Hatfield, Garstfontein, between Villieria and Derdepoort, Roodeplaat, and Zeekoegat (near Roodeplaat).

The female of this species has not been fully described, but the more important characters, taken from specimens collected at Rosslyn (G. van Dam), are mentioned in my key to the genus (Records Albany Museum, III, p. 79). The length of the strip of spinules on the upper surface of the palpal tarsus now proves to be somewhat variable, and may occasionally be about as short as in the closely related species, *S. coronatus*, mihi, from Kroonstad (Records Albany Museum, III, p. 87): this latter species may therefore eventually be found to merge into *robertsi*, but the two forms seem separable through the spinulation at the apex of the palpal tibia, where the adults of *robertsi* have only an odd 1 or 2 spinules, whereas a group of spinules occurs in *coronatus*. The number of spines on the anterior surface of tibia I is a variable character: in one adult specimen there are 19. The species *S. dubius* (Records Albany Museum, II, p. 410), described by me from a single female specimen taken at Potchefstroom, is no doubt specifically identical with *robertsi*.

Two adult male specimens were taken at Wonderboom Poort (24th March, 1915), by Messrs. van Dam and Roberts, who found them in nests provided with quite a normal type of lid. Although males of this genus are sometimes taken on the open veld, yet it seems clear that, like the males of other trapdoor-making genera, they normally occupy nests which closely resemble, except in size, those of the adult females. The patella of the palp is about $1\frac{1}{2}$ times as long as that of the first leg, and only very slightly shorter than the tibia of that leg. All the tarsi are scopulate, but there is no trace of a scopula at the apex of metatarsus I.

Family MIGIDAE.

Moggridgea paucispina, sp. nov.

This species is allied to *M. seticoxa* Purc., *M. coegensis* Purc., and *M. nigra* Purc., but seems to differ from any of them in the ocular characters and in the comb of setae at the apex of metatarsus IV: in *paucispina* that comb includes only 2 or 3 setae, whereas there are 5 in its allies. The rather small size of the anterior lateral eyes also seems to be a distinctive character. When its characters are better known, *M. pymi* mihi, the type of which seems to be only half-grown, may prove to be closely related to the species now described.

Type.—A single specimen from Wonderboom Poort, Pretoria, collected by Mr. A. Roberts (19th June, 1915).

Carapace a little longer than broad, about equal in length to the tibia, metatarsus, and $\frac{1}{3}$ of the tarsus of the fourth leg. Fovea without median prolongation behind. Anterior row of eyes with its front margins forming only a very slightly procurved line, the laterals comparatively small, each being about twice the area of an anterior median: the distance between an anterior median and anterior lateral equal to about 3 times the diameter of the former. Anterior medians about $1\frac{1}{4}$ diameters apart. Posterior medians subequal to the posterior laterals in size, the hind margins of the posterior row in a fairly strongly recurved line. Breadth of ocular area decidedly greater than the length of metatarsus I.

Legs.—Patella III on its anterior side with a single row or 2 incomplete rows, of stout spiniform setae superiorly, and with 2 or 3 similar stout bristles on the distal edge. Patella IV with numerous, rather short, stiff setae on the anterior side, occurring from base to apex, but none are spiniform except a few on or near the distal edge, which are only weakly so. Coxa III inferiorly with a cluster of 7–10 spines or spiniform bristles, II and I with 7 or 8 scattered bristles posteriorly below.

Pedipalp with 15 or 16 spinules on the coxa inferiorly, occupying 2 irregular rows.

Labium with 13 teeth.

Colour.—Carapace and appendages dark-chestnut. Abdomen purplish above, but somewhat paler below.

Total length 17·5, length of carapace 6·25.

There is in the Durban Museum a single specimen of a species of *Moggridgea* from Ngxwala Hill, North Zululand, which seems very closely allied to if not identical with *paucispina*. It differs therefrom in the somewhat larger size of the eyes of the anterior row, especially of the laterals—a character which must not be over-estimated as the specimen is quite probably immature—and the armature of coxa III inferiorly is composed of short spinules rather than spines.

Male.

An adult male collected by Mr. G. van Dam at Wonderboom Poort, Magaliesberg (2nd March, 1916), has the following noteworthy characters:

Carapace.—The surface is closely wrinkled throughout. Fovea without backward or forward median continuation. The cephalic area is somewhat elevated in front, and, further, the mesial portion just in front

of the anteromedian eyes projects forwards fairly strongly. Just in front of these eyes mesially is 1 stout bristle and 2 smaller ones: behind them is a pair of short weak spines.

Appendages.—Coxae and labium without spinules or spiniform setae. First leg with stout spines laterally on both tibia and metatarsus and an odd one may or may not occur on the anterior side of the tarsus: there are 1 or 2 on the ventral surface of the metatarsus and 2 or 3 at the apex of the patella inferiorly. Second pair of legs with weaker spines. Chelicera with 2 rows of teeth, an inner row of 4 or 3, and outer row comprising 1 large basal tooth and 3 or 4 small distal ones. Tarsus of palp with a prominent pointed subconical lobe at the apex superiorly.

Measurements.—Total length 9 mm., length of carapace 4·1, breadth of same 3·6, length of tibia of palp 2 mm.

General colouration.—Dark-brown.

In other respects this male resembles that of *rupicola* described by me (Records Albany Museum, II, p. 463). The anterior prominence of the carapace is specially characteristic of the species.

The male was accompanied by a female specimen which agrees closely with the type of *paucispina*, but differs in the absence of distinct spines or spiniform bristles on the ventral surfaces of coxae III and II: it is smaller than the type. This would seem to point to a relationship between *microps* and *paucispina*, as indeed is indicated by the ocular character.

Female examples have recently been taken at Wolhuters Kop, Rustenburg District, by Mr. G. van Dam: the cluster of spines or bristles on coxa III is lacking in these examples.

Family DIPLURIDAE.

Microstigma, gen. nov.

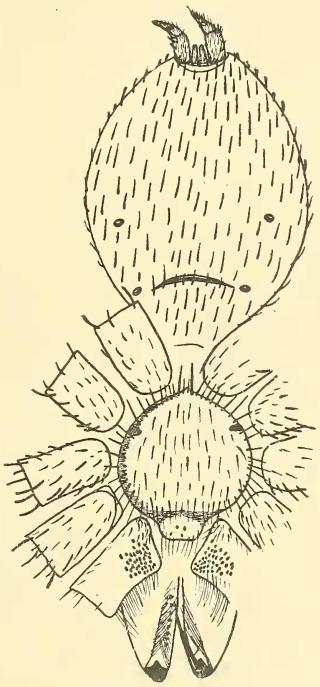
This new genus is founded for the reception of a species which cannot be included in any *Diplurid* or *Ctenizid* genus hitherto known from South Africa. It is assigned to the Dipluridae on account of the absence of the rastellum, but I am unable to discover definite indication of close relationship to any of the known genera of that family. But for the absence of scopulae it might perhaps be included in the group Brachytheleae (see Rainbow in Records Australian Museum, Vol. X, p. 259). Some light on its relationships may be disclosed on the discovery of the male, but for the present it can be considered as one of the connecting links between the two families Ctenizidae and Dipluridae. The characters of the species are as follows:—

Microstigma geophilum, sp. nov. (Text fig. 8.)

Types.—Several female specimens taken under stones in the damp bush which covers the hills on the south side of Grahamstown (J. Hewitt, March, 1915). The surfaces of the living animal are covered with extraneous siliceous matter, the tiny granules of which adhere closely to the integuments of the spider.

Colour.—Carapace dull-brownish: abdomen brown, with 4 or 5 pale transverse bands dorsally, the second and third bands being interrupted mesially: legs pale-brown.

Integuments.—The skin throughout is very finely roughened or shagreened, except at the articulations. There is an almost complete absence of fine hairs: none occur on the carapace nor on the abdomen, but on the tarsi, metatarsi, and tibiae of the legs, there are a few scattered very long and slender hairs which project outwards at right angles from the upper surfaces. The surfaces of the body and appendages bear some very characteristic spines: they are very stout and truncated or blunt at their tips: sometimes they are even enlarged at their apices. Examined under the low power of a compound microscope each truncated spine is seen to have the surface frayed into fine serrations near the apex.



Text Fig. 8.
Microstigma geophilum, sp. nov.
Ventral view of trunk and bases of appendages.

Carapace.—A little longer than broad, depressed, the cephalic region being scarcely raised above the thoracic portion, the radial depressions weakly developed. Fovea transverse. Ocular area hardly twice as broad as long. Ocular tubercle strongly raised. Anterior margins of anterior row of eyes practically in a straight line when viewed from above: anterior laterals largest of all the eyes: the anterior and posterior margins of the posterior row are both in strongly recurved lines. Distance between posterior medians slightly greater than twice the long diameter of an eye. Some strong spines fringe the lateral margin of the carapace in its posterior half and a few also occur in front of and upon the ocular tubercle: otherwise the spines on the surface of the carapace are weak and short and are not numerous.

Sternum about as long as broad and subcircular. Strongly fringed near its margin with spines, especially posteriorly, the spines anteriorly being longer, but more slender. The general surface is slightly curved and is beset with long slender scattered spines, which are longer than but not so stout as those on the ventral surface of the abdomen. Three pairs of sigilla, all marginal, the two anterior pairs situated outside the fringe, the third pair largest and forming a conspicuous depression.

Labium broader than long, inclined obliquely downwards. It carries four broadly expanded denticles.

Abdomen with truncated spines scattered about on all the surfaces: they are very strong anteriorly above, but comparatively weak over the greater portion of the mesial area dorsally.

The lung-book stigmata are unusually small, being oval pores rather than transversely elongated slits.

Anterior spinners comparatively slender and situated close together. Posterior spinners only a trifle more than $\frac{1}{2}$ the length of the sternum: basal joint longest, longer than the anterior spinners: terminal segment a little longer than the penultimate segment.

Chelicerae with a single inner row of 7 or 8 teeth inferiorly: outer row represented by 1 or 2 small teeth near the base of the series. A fringe of long hairs on the outer side of the fang groove. Rastellum absent. Scattered about, not very closely, on the anterior surface are a number of long stiffish bristles, the stoutest of which are situated superiorly: several rather longer bristles occur on the anterior apical edge, but they do not form in any sense a definite row.

Palp.—Tarsus with an internal row of 5 strong spines ventrally and an external row of 4 strong spines ventrally. Maxillae considerably longer than broad, with a basal patch of about 40 stout broadened denticles.

Legs.—Clothed with stiff setae and stout spines. Scopulae entirely wanting. Tarsi all without spines though short stiff setae are present. Median tarsal claw present, but rather small: paired tarsal claws with a double row of teeth, comprising 4 or 3 in each row and situated in the basal half of the claw. Metatarsus I with 4 strong spines anteroventrally and 3 posteroventrally: II with 2 ventral rows of 3 each, also 2 on the anterior surface: III and IV with several spines on the posterior surface as well as ventrally and anteriorly, but there are none on the mesial portion of the dorsal surface. Tibia I with 3 spines at apex inferiorly and 4 on the lower surface. Femora of palps and legs beset with a single row of strong truncated spines dorsally: on femur II the row is reduced to 2 distal spines, but on the other legs it comprises 4 or 5. On the patellae dorsally much shorter and weaker spines, also arranged in rows, occur, and rows of weak spines or stiffish bristles occur on the dorsal surfaces of the tibiae and metatarsi. There are nowhere any dense groups of spines or spinules on the legs. Fourth leg longest: legs II and III subequal. Tarsi all shorter than the metatarsi. Metatarsus IV longest, about $1\frac{3}{4}$ times as long as tarsus IV. Tibia I stouter than any of the other tibiae, a little longer than tibiae II and III, but shorter than tibia IV.

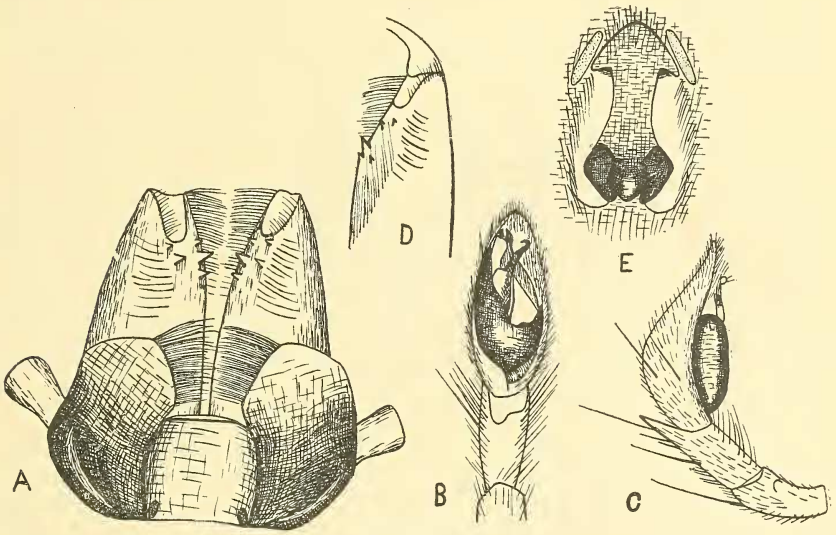
Measurements.—Total length 9 mm., length of carapace 3, breadth of same 2·5, length of first leg 9, of fourth leg 12.

Family DRASSIDAE.

Drassodella, gen. nov. (Text fig. 9—A-E.)

This name is proposed for the reception of a species which cannot be referred to any of the genera included by M. Simon in the family Drassidae, and, but for the fact that the maxillae are strongly impressed, the species might with some propriety be referred to the family Clubionidae. The labium is much shorter than that of other Drassidae known from South Africa (except the anomalous genus *Titus* O. P. Camb.), and the inferior spinners are not widely separated although not actually contiguous. The generic characters are as follows :—

Inferior spinners with hardened integument, not widely separated from each other, being not so far apart as the superior spinners, not greatly



TEXT FIG. 9.

Drassodella salisburii, gen. et. sp. nov. A. Mouth parts of female. B and C. Palp of adult male. D. Chelicera showing dentition of adult male. E. Epigyne of adult female.

elongated, hardly reaching as far as the superior spinners : maxillae obliquely disposed and deeply impressed : trochanter of palp inserted about opposite the middle of the maxilla : labium about as broad as long, not much surpassing the basal half of the maxillae : carapace moderately convex, not flattened, fairly strongly attenuated in front, the radial markings indistinctly indicated, the median stria rather short, but not reduced to a mere punctuation : clypeus vertical, but very low : sternum subcircular, not produced nor attenuated in front : dentition of chelicerae 2.3 : coxa I longer than II and III, but subequal to IV : tarsi of legs very slender, but straight not flexuose : lateral eyes of each side widely separated : area formed by the median eyes longer than wide : posterior row decidedly recurved, anterior row only very slightly recurved, the anteromedian eyes smaller than the anterolaterals : abdomen of male not scutate above.

D. salisburii, sp. nov.

The types are several adult male examples and one adult female collected at Grahamstown on the forested slopes above the Albany Hospital during February, 1915. The species is named after Mr. F. S. Salisbury, M.A., who has made important contributions to our knowledge of the flora of this portion of South Africa and has rendered great service to the Albany Museum on various occasions.

Colour.—Carapace and legs blackish, the former thinly margined with pale-yellow and with a thin yellow median stripe bifurcating behind at the fovea: pale-yellowish or white hairs are also found on the upper surfaces of the coxae, trochanters, and basal parts of the femora. The abdomen is bright-orange dorsally, the coloured area being sharply defined and broken only by a short median black streak anteriorly. Ventral surfaces blackish. The ventral and lateral surfaces of the abdomen are faintly tinged with yellow, owing to the presence of fine plumose hairs which occur along with the more conspicuous black simple hairs which are longer and stiffer.

Ocular area.—Anteromedians about half the size of the anterolaterals, a trifle more than a diameter apart, but only about ½ a diameter distant from the anterolaterals. Posterior row broader than the anterior row, the medians only a mere trifle nearer to each other than to the laterals. Distance from anterior lateral to anterior margin of the carapace rather greater than the diameter of an eye.

Chelicerae.—In the female the basal joint is shorter and stouter than in the male, and the dentition accordingly is different, the distal tooth of each row being much more widely separated from its neighbour in the male than in the female. The strongest tooth is the middle one of the inner row.

Legs.—All the tarsi and the two anterior metatarsi are scopulate to the base. In the female there is a scopula in the distal half of tibia I on its anterior side, but such is not the case in the male. Tarsus IV is not so decidedly scopulate as I and II, the hairs being more setiform. Near the base of metatarsus I inferiorly is a pair of spines in the male, but not in the female. Metatarsus II with a pair of spines near the base inferiorly in both sexes. Tibia I with two pairs of spines inferiorly, II with only two unpaired spines below. Metatarsi III and IV and tibiae III and IV with a pair of spines at the apex inferiorly, and, in addition, two pairs of rather long and strong spines on the lower surface: besides, there are several similar spines on the lateral surfaces of each segment so that near to the apex of the metatarsi there are in all about 6 spines. Femora I and II have about 2 or 3 spines superiorly whilst III and IV have about 5 superior spines. None of the tarsi are spined. Fine plumose hairs occur on the legs as well as stiff black ones.

Male palp.—The tibia is produced distally into a stout straight process acuminately pointed at the end. What seems to be the spine of the bulbal organ arises from an expanded lamina, which is mostly not pigmented and suddenly contracts into a fairly slender dark-coloured process, which is strongly hooked near its apex. Besides this, the palpal

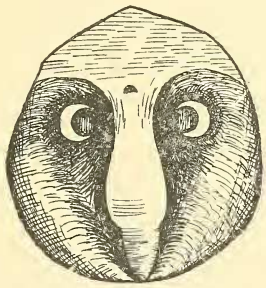
organ presents two other folded laminas, one of which is whitish and the other deeply pigmented.

Female epigyne.—There is a large excavation anteriorly and on either side of this the surface presents an elongated sigillum. The mesial area over the whole length of the epigyne is more or less excavated, except posteriorly, where there is a small rounded knob-like elevation: this latter is bounded on each side by a darkly pigmented area.

Measurements.—Male: total length 8·25 mm., length of carapace 3·8, breadth of same 3, length of first leg 12·2, of fourth leg 14·5. Female: total length 9 mm., length of carapace 3·4, breadth of same 2·5, length of fourth leg 12·5.

Xerophaeus anthropoides, sp. nov. (Text fig. 10.)

Type.—A single adult female specimen from Roodeplaat, Pretoria District, collected by Mr. G. van Dam (24th May, 1915).



Text Fig. 10.

Xerophaeus anthropoides, sp nov
Epigyne of female.

Ocular area.—Anterior row of eyes almost straight in dorsal view, posterior row fairly strongly procurved. Posterior medians about $\frac{1}{2}$ a long diameter apart and $1\frac{1}{2}$ diameters distant from the posterior laterals. Distance between anterior lateral eye and anterior margin of carapace about equal to the diameter of the eye.

Chelicera without an inferior tooth.

Legs.—Tibia I with 3 strong spines below, 1 at the apex, 1 at the base, and 1 about the middle of its length. Metatarsus I with 2 basal spines inferiorly.

Epigyne.—The central paler area is not grooved over any portion of its length, and the narrowed posterior portion is convexly raised. The anterior pocket is almost obsolete, being merely a small shallow pit on the general surface. The posterior lateral convexities are large: anteriorly, on each side of the central area immediately posterior to the rudimentary pocket, there is a large deep pit within which is situated a darkly pigmented circular area which appears to correspond with the anterior convexities found in such species as *X. poweri* mihi from Kimberley (Records Albany Museum, III, p. 94).

Total length 12 mm.

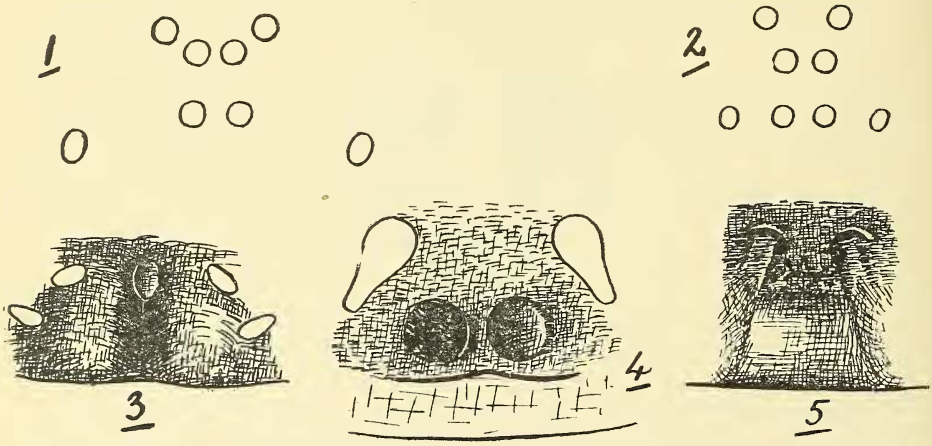
This species is at once distinguished from any of the previously described members of this genus in the rudimentary anterior pocket of the epigyne.

Family ZODARIIDAE.

Cydrela vandami, sp. nov. (Text fig. 11, 1 and 3.)

Type.—A single adult female from Roodeplaat, Pretoria District, collected by Mr. G. van Dam (24th May, 1915).

Colour.—Carapace and appendages dark chestnut-brown, almost black: abdomen dark with several small yellowish-white areas, all longitudinally elongated and situated in the mid-line, the most conspicuous one being situated anteriorly, a smaller one just above the anal papilla, and a third about midway between the two just mentioned. Sternum reddish-brown.



TEXT FIG. 11.

Ocular area of *Cydrela vandami*, sp. nov., 1; of *C. spinifrons* Hewitt, 2; Epigyne of *Cydrela vandami*, sp. nov., 3; of *C. spinifrons* Hewitt, 4; of *C. friedlanderae* Hewitt, 5.

Carapace.—The clypeus is completely devoid of bristles, spines, or even stiff hairs. The eyes are arranged in two rows, the anterior row being strongly procurved, the posterior row a little recurved. Anteromedian eyes subequal to the posteromedians in size, about $\frac{1}{2}$ a diameter apart, and about the same distance from the anterolaterals, but about $1\frac{1}{2}$ diameters distant from the posteromedians. Anterolaterals about 3 diameters apart. Posteromedians about $\frac{3}{4}$ of a diameter apart and nearly 4 diameters distant from the posterior laterals.

Abdomen covered with slender hairs.

Epigyne.—The pair of pits or pockets which are often found on the epigyne in this genus seems to be quite absent. There is, however, a single rather ill-defined median depression anterior to and between the dark-coloured paired convexities: on the outer side of each convexity is a pair of sigilla devoid of hairs.

Legs.—Tarsus I without spines. Tarsi I and II distinctly, but not strongly, scopulate inferiorly, and setae similar to those which compose these scopulae occur also on III and IV, but are not so closely arranged. Metatarsi I, II, and III with dense tufts of long setae at the apex inferiorly. Tarsus IV about $\frac{2}{3}$ the length of the metatarsus. Patella IV with a single spine on each of the surfaces anteriorly, dorsally, and posteriorly. At or near the distal ends of femora III and IV superiorly there are only 1 or 2 weak spines.

Total length 9·5 mm., length of carapace 4 mm.

The very weak development of spines on the fourth and third patellae, and indeed on the legs as a whole, is a characteristic feature of this species. The complete absence of spines on tarsus I is shared also by *C. spinifrons* mihi (Records Albany Museum, III, p. 101), but the two species differ considerably in other respects: it may be added that in *spinifrons* the inferior spinners are long and subcylindrical, whereas in *vandami* they are shorter and more tapering from base to apex. The epigynal characters of these species and of *friedlanderae* mihi is illustrated in the accompanying figure. It appears probable that this character is of considerable specific importance.

Explanation of Plate XXVI.

Galeosoma hirsutum, sp. nov., from Roodeplaat.
Fig. 1. Dorsal view, slightly enlarged.
Fig. 2. Side view, slightly enlarged.

Galeosoma robertsi, sp. nov., from Pretoria.
Fig. 3. Dorsal view, slightly enlarged.
Fig. 4. Side view, slightly enlarged.

Galeosoma pilosum, sp. nov., from Pretoria.
Fig. 5. Dorsal view, slightly enlarged.
Figs. 6 and 7. Side view, slightly enlarged.

Spiroctenus (*Homostola*) *zebrina* Purcell, from Oshoek, Carolina District.
Fig. 8. Dorsal view, natural size.

Pelmatorycter pretoriae Hewitt, from Lyttelton Junction.
Fig. 9. Dorsal view, natural size.

Pelmatorycter, sp. near *brevipalpis*, sp. nov., from Carolina.
Fig. 10. Dorsal view, natural size.

Calommata transvaalicus, sp. nov., from the neighbourhood of Pretoria.
Fig. 11. Dorsal view, enlarged.

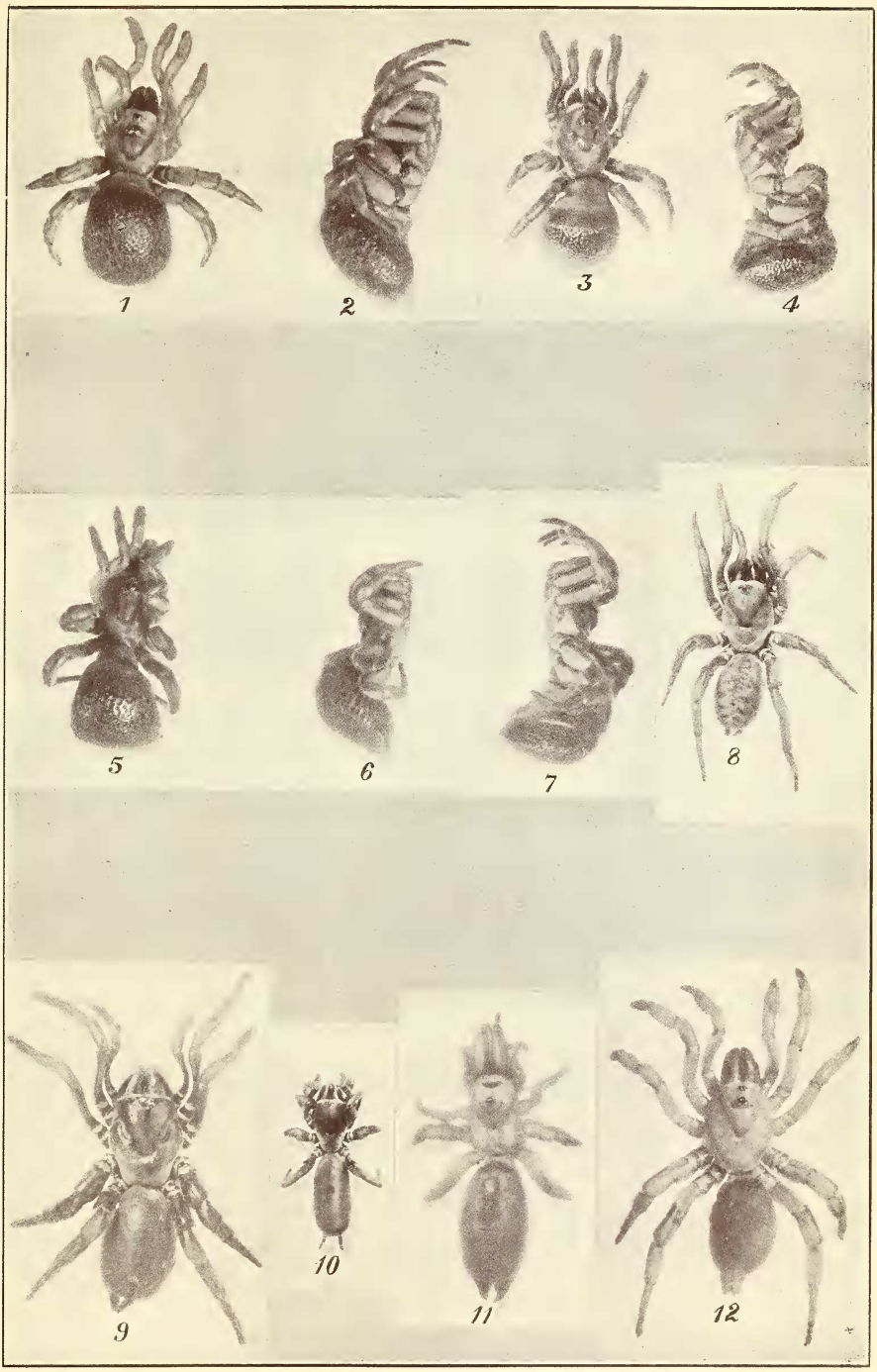
Idiops pretoriae Pocock, from Pretoria.
Fig. 12. Dorsal view, natural size.

Explanation of Plate XXVII.

Pelmatorycter bulcocki, sp. nov., from Ngqeleni.
Fig. 1. Adult male, in dorsal view.
Fig. 2. Adult female, in dorsal view.

Stasimopus robertsi Hewitt, from Pretoria.
Fig. 3. Adult male, in dorsal view.
Fig. 4. Subadult female, in dorsal view.

All figures natural size.



FOUR-LUNGED SPIDERS FROM THE TRANSVAAL.

MALE AND FEMALE TRAP-DOOR SPIDERS.

TEXT FIG. 6*a*.

Females of the genus Pelmatorycter taken in the same vicinity at Roodeplaat, slightly enlarged. 1. *P. pretoriae rufescens*, var. nov.; 2. *P. brevipalpis*, sp. nov.